



Volunteer Lake Assessment Program Individual Lake Reports

SILVER LAKE, HARRISVILLE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,408	Max. Depth (m):	26.2	Flushing Rate (yr ⁻¹)	0.2	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	333	Mean Depth (m):	10.4	P Retention Coef:	0.79	1990	OLIGOTROPHIC	
Shore Length (m):	7,400	Volume (m ³):	13,878,500	Elevation (ft):	1319	1998	OLIGOTROPHIC	

TROPHIC CLASSIFICATION

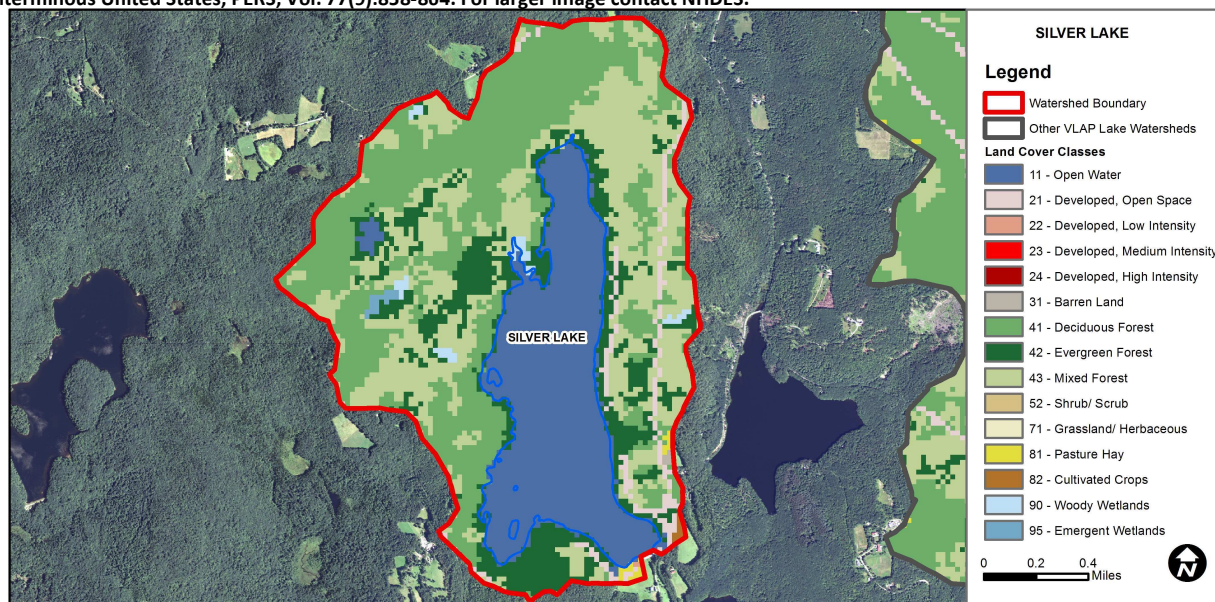
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Very Good	>5 samples and median is < 1/2 threshold.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	No Data	No Data for this parameter.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	23.7	Barren Land	0.07	Grassland/Herbaceous	0
Developed-Open Space	2.88	Deciduous Forest	31.44	Pasture Hay	0.29
Developed-Low Intensity	0.03	Evergreen Forest	14.02	Cultivated Crops	0.15
Developed-Medium Intensity	0	Mixed Forest	26.37	Woody Wetlands	0.76
Developed-High Intensity	0	Shrub-Scrub	0	Emergent Wetlands	0.26

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- ♣ **CHLOROPHYLL-A:** Chlorophyll levels were low and well below the NH lake median. Historical trend analysis indicates a stable chlorophyll level since monitoring began.
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity was low at all stations and well below the NH lake median.
- ♣ **TOTAL PHOSPHORUS:** Deep spot phosphorus levels were very low and below the NH lake median. Historical trend analysis indicates a relatively stable epilimnetic (upper water layer) phosphorus level since monitoring began. Sucker Brook and Lead Mine Inlet 1 phosphorus levels were elevated in July potentially due to low flow conditions.
- ♣ **TRANSPARENCY:** Transparency remained stable throughout the summer and was well above the NH lake median. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- ♣ **TURBIDITY:** Turbidity in Lead Mine Inlet 1 was slightly elevated in July which could have contributed to the phosphorus level. All other turbidities were low.
- ♣ **pH:** pH levels were lower than desirable and potentially critical to aquatic life.
- ♣ **RECOMMENDED ACTIONS:** Continue to educate watershed residents on ways to reduce phosphorus loading to the lake to maintain water quality. Monitor stormwater runoff from dirt and gravel roads and implement best management practices to control erosion were necessary. Keep up the great work!

Station Name	Table 1. 2012 Average Water Quality Data for SILVER LAKE						
	Alk.	Chlor-a	Cond.	Total P	Trans.		Turb.
	mg/l	ug/l	uS/cm	ug/l	m		ntu
					NVS	VS	
Eastside Inlet			20.0	5			0.16
Deep Epilimnion	1.4	1.59	22.1	3	7.67	10.0	0.32
Deep Metalimnion			21.7	5			0.59
Deep Hypolimnion			23.0	9			0.51
Lead Mine Inlet 1			26.7	10			0.97
Lead Mine Inlet 2			25.0	6			0.86
Outlet In Stream			22.0	3			0.39
Sandy Bch Inlet 1			28.0	7			0.44
Sucker Brook			14.3	24			0.68

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

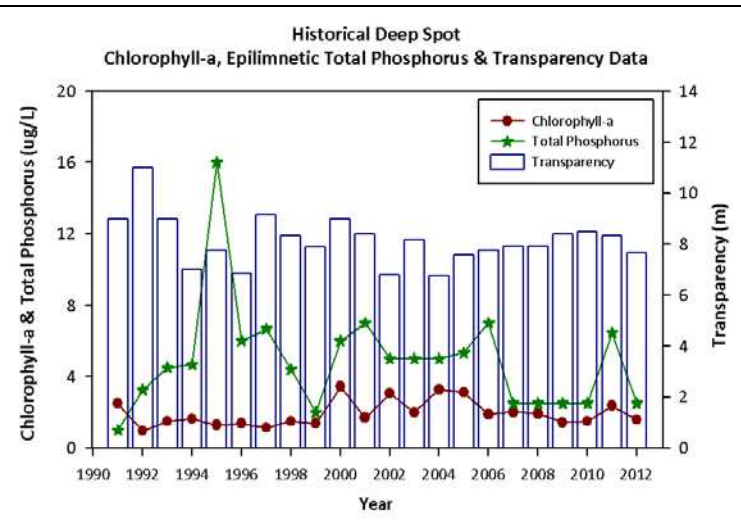
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Stable	Data not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Stable	Data not significantly increasing or decreasing.



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